REMARKS

The application includes claims 1-30 prior to entering this amendment. Claims 25-30 have been cancelled. The application remains with claims 1-24 after entering this amendment. No new matter is added and reconsideration is respectfully requested.

Applicant would like to thank the Examiner for discussing the application on June 24, 2008. The elaims were discussed and Applicant explained to the Examiner how the claims were distinguishable over the cited art.

Claim Rejections - 35 U.S.C. § 112

The Examiner rejected claims 25-30 under 35 U.S.C. § 112, first paragraph. The rejections are respectfully traversed. However, to further the case to issuance, claims 25-30 have been cancelled for possible prosecution in a continuation application. Accordingly, the rejection of claims 25-30 under 35 U.S.C. § 112, first paragraph are moot.

The examiner rejected claims 10-18 and 19-24 under 35 U.S.C. § 112, second paragraph. With regard to claim 10, the Examiner alleges that one skilled in the art would not understand how a scanner chassis would be movable under the top portion of the physical scanner body. The Examiner is referred to FIG. 1 where a scanner chassis 114 is shown moveable in direction 150 under the top 108 of physical scanner 100. The Examiner is also referred to FIG. 2 where the scanner chassis 214 is shown movable in a direction 250 under the top 208 of the scanner 200. However, to remove any confusion, the scanner chassis in claim 10 has been renamed as a scanner element.

With regard to claims 19-24, the Examiner alleges that without having a function to modify "means for" language makes the claims undefined. The rejection is respectfully traversed. However, claims 19-24 have been amended to include a function that modifies the "means for" language as requested by the Examiner. The support for the elements recited in claim 19 are clearly shown in FIGS. 2-4 and are clearly described in pages 7-11 of the pending application.

Accordingly, claims 10-18 and 19-24 are allowable under 35 U.S.C. § 112, second paragraph.

Claim Rejections - 35 U.S.C. § 103

The Examiner rejeeted claims 1, 3-4, 6-7, and 9 under 35 U.S.C. § 103(a) as being unpatentable over Horiuehi *et al.* (U.S. Patent 6,445,469) in view of Seachman *et al.* (U.S. Patent 5,621,217) and further in view of Hsu *et al.* (U.S. Patent 6,452,631). The Examiner rejeeted claims 2, 5, and 8 under 35 U.S.C. § 103(a) as being unpatentable over Horiuehi in view of Seachman and further in view of Hsu as applied to claims 1 and 7 above, and further in view of Sheng *et al.* (U.S. Patent 6,753,982). The Examiner rejected claims 10-30 under 35 U.S.C. § 103(a) as being unpatentable over Sheng in view of Horiuchi and further in view of Seachman.

Claim 1 has been amended and now recites:

scanning a document to determine a plurality of actual gray level values for a plurality of pixels scanned from the document;

scanning a continuous longitudinal black pattern while scanning the document to determine a correctional gray level value for complete black;

scanning a continuous longitudinal white pattern while scanning the document to determine a correctional gray level value for complete white;

determining a compensational gray level value with respect to the actual gray level value for each of the pixels based at least in part on the correctional gray level value for complete black, the correctional gray level value for complete white, and the actual gray level values for each of the pixels scanned from the document; and

compensating for image brightness in a scanned image of the document using the compensational gray level value for each of the pixels.

Horiuchi describes a system for controlling a speed fluxuation state of a scanner when scanning an image in a feed direction (Abstract). A chart 17 in FIG. 8 of Horiuchi has alternating white and black lines of the same width (col. 8, lines 36-40). The white lines in chart 17 of Horiuchi are 1 pixel thick and the black lines are 1 pixel thick (col. 8, lines 41-44). Scanner speed fluxutions are detected according to variations in the optical density values of the known thicknesses of the alternating white line and black line values of the chart 17 (col. 8, lines 64- col. 9, lines 7).

The alternating black and white lines in chart 17 of Horiuchi are not a continuous longitudinally extending black pattern or a continuous longitudinally extending white pattern as recited in claim 1. The speed fluxuation scheme in Horiuchi would not work if the chart 17 where a continuous longitudinally black or white pattern. Specifically, there would not be sufficient variations in the optical density values for associating with speed fluxuations. Therefore, Horiuchi teaches away from a continuous longitudinally extending black pattern or a continuous longitudinally extending white pattern as recited in claim 1.

The Examiner alleges that Houiuchi at col. 13, lines 16-44 describes compensating a whole image by using a correction factor. However, Houiuchi never discloses:

scanning a document to determine a plurality of actual gray level values for a plurality of pixels scanned from the document . . .

determining a compensational gray level value for each of the pixels based at least in part on . . . the actual gray level values for each of the pixels scanned from the document; and

compensating for image brightness in a scanned image of the document using the compensational gray level value for each of the pixels as recited in claim 1.

The Examiner refers to col. 3, lines 18-26 and lines 54-58 of Houiuchi as disclosing producing a plurality of actual gray level values. But col. 3, lines 18-26 in Houiuchi simply describes extracting a speed fluctuation component by determining a gray-level change in each scale line. There is no suggestion that a document is ever scanned to determine a plurality of actual gray level values, much less using those gray level values when determining a compensational gray level value as recited in claim 1.

Col. 3, lines 54-58 of Houiuchi describes a document-image reading device that performs correction of image data. But still there no suggestion that a document is ever scanned to determine a plurality of actual gray level values and using those actual gray level values when determining compensational gray level values.

The Examiner also refers to col. 8, lines 52-58 of Houiuchi as determining actual gray level values for each pixel. However, col. 8, lines 52-58 of Houiuchi describes extracting data from the calibration chart 17 as shown in FIG. 6 (col. 8, line 54) not from a document.

As explained above, Houiuchi describes a system for controlling speed fluxuations in a scanner by detecting variations in the optical density values of the known thicknesses of alternating white line values and black line values of the chart 17 (col. 8, lines 64- col. 9, lines 7).

Houiuchi requires knowledge of the thiekness of the white and black areas in the calibration chart 17 in order to correlate the variations of the optical density of these known white and black areas with speed variations. It would not make sense for Houiuchi to use actual gray level values taken from a scanned document when making these speed fluxuations calculations because the thickness of the white and black areas in a document are typically random and unknown.

Seachman is FIG. 1 describes a tag 5 that is used for generating calibration strip characteristic values (col. 4, lines 36-39). The calibration strip characteristic values can then be used along with a signal obtained by scanning the calibration strip 3 to determine calibration correction values (col. 4, lines 40-44). The correction values may provide correction for offset and gain errors of the sensor array 7 or variations in the color temperature or other properties of lamp 1 (col. 4, lines 44-48).

However, Seachman cannot *scan a continuous longitudinal black pattern while scanning the document to determine a correctional gray level value for complete black* as recited in claim 1. Seachman also cannot *scan a continuous longitudinal white pattern while scanning the document to determine a correctional gray level value for complete white* as also recited in claim 1.

Refer to FIG. 1 of Seachman where the calibration strip 3 is positioned in parallel with the lamp 1 and the sensor 7. Also refer to FIG. 4 and col. 2, lines 52-57 that state the optical system is positioned as illustrated in FIG. 4, to allow the sensor array 7 to view a strip of calibration information and/or patterns 3. Also refer to col. 4, lines 49-59 of Seachman explaining that the tag 5 in FIG. 1 is offset from the calibration strip 3 in the slow-scan direction. The direction of scanner movement in Seachman moves perpendicular to the longitudinal direction of tag 5 and calibration strip 3. Because, the longitudinal direction of the lamp 1, sensor 7, tag 5 and calibration strip 3 in Seachman are all perpendicular to the moving scanning direction, Seachman cannot scan a continuous black pattern or white pattern while scanning a document as recited in claim 1. The lamp 1 and sensor 7 in Seachman would have to scan the tag 5 and calibration strip 3 before scanning a document not while scanning the document.

Hsu does not show any black or white pattern much less *scanning a continuous longitudinal black pattern while scanning the document to determine a correctional gray level value for complete black and scanning a continuous longitudinal white pattern while scanning the document to determine a correctional gray level value for complete white* as recited in claim

1. Hsu describes a correction board 400 in FIG. 4, but the correction board is square and not a continuous longitudinal back or white pattern that is scanned while scanning a document as recited in claim 1 (FIG. 4, col. 5, lines 19-55).

Sheng describes a scanner with an edge detector for detecting the edges of a doeument to be scanned (abstract). FIGS. 1A-1C in Sheng show the edge deteetor 16 operating independently of the scanning module 14 (col. 4, lines 32-33). The edge deteetor 16 includes a first light source 28 which is independent from the scanning module 14 (col. 4, lines 32-36). The edge detector 16 in Sheng further includes a set of lenses 30 and an array of light sensors 32 (FIG. 1c).

The edge detector 16 does not include a continuous black pattern or continuous white pattern and is never scanned while scanning a document to determine correctional gray level values. It simply would not make sense to scan the edge detector 16, since the edge deteetor 16 is used for detecting the edge of a document and not for providing correctional gray level values.

The Examiner also references US Pat. No. 3,952,144 to Kolker; US Pat. No. 5,091,654 to Coy; and US Pat. No. 5,331,428 to Uffel as disclosing black and white calibration strips for scanner calibration. However, none of these references disclose or suggest a continuous black or a continuous white calibration pattern that is scanned while scanning a document as now recited in claim 1.

For at least the reasons stated above, claim 1 is patentable under 35 U.S.C. § 103(a) over Horiuchi in view of Seachman, Hsu, and Sheng. Other claims include at least some elements similar to elements recited in claim 1 and are therefore patentable for at least some of the same reasons.

Conclusion

For the foregoing reasons, the applicants request reconsideration and allowance of all pending claims. The applicants encourage the examiner to telephone the undersigned if it appears that an interview would be helpful in advancing the case.

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Respectfully submitted,

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